

U.S. National Phase of International Application Ser. No.: PCT/BE2005/000047  
Title: AIR VENTING SYSTEM  
Preliminary Amendment

5     **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

10    **Listing of Claims:**

1. ( Currently amended) An air venting system for a gas exhaust conduit of a waste containing system selected from the group consisting of waste treatment system, waste conveying system and substantially closed waste container, said system  
15 comprising:

- a body defining an inner chamber; said body having at least one inlet opening intended for receiving gases from the gas exhaust conduit and at least one outlet opening intended for releasing gases out of the body, and
- at least one odor absorbing means placed in the inner chamber, said odor  
20 absorbing means having: (a) an inlet surface through which gas from the waste containing system enters into the odor absorbing means, and (b) an exhaust surface through which gas from the waste containing system flows out of the odor absorbing means after flowing through at least a portion of said odor absorbing means,

25 whereby the system is adapted for defining a gas flowing path between the inlet surface and the exhaust surface of the odor absorbing means, said flowing path in the odor absorbing means having at least a first upwards flow path portion with a first flow direction defined by at least one vector and a second downwards flow path portion with a second flow direction defined by at least one vector, whereby at  
30 least one vector of the second flow direction is opposite to a vector of the first flow direction, and

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in which the odor absorbing means is placed in the inner chamber so as to define a volume free of odor absorbing means, whereby gas flowing from the inlet opening towards the outlet opening flows at least partly from the inlet opening through a portion of the odor absorbing means towards the volume free of odor absorbing  
10 means, and through another portion of the odor absorbing means from the volume free of the odor absorbing means towards the outlet opening.

2. (Original) The air venting system of claim 1, in which the inner chamber is defined by at least one wall, and in which the odor absorbing means is placed in the  
15 inner chamber so as to define between the said at least one wall of the chamber and the odor absorbing means a space free of odor absorbing means but closed by said odor absorbing means, whereby gas flows in or out said space only through the odor absorbing means, whereby gas flowing from the inlet opening towards the outlet opening flows at least partly from the inlet opening through a portion of the  
20 odor absorbing means towards the volume free of odor absorbing means, and through another portion of the odor absorbing means from the volume free of the odor absorbing means towards the outlet opening.

3. (Original) The air venting system of claim 1, in which the odor absorbing  
25 means is placed in the inner chamber so as to define a volume free of odor absorbing means, whereby gas flowing from the inlet opening towards the outlet opening flows at least partly according to an upwards flow path from the inlet surface of the odor absorbing means and through a portion of the odor absorbing means towards the volume free of odor absorbing means, and at least partly  
30 according to a downwards path from the volume free of the odor absorbing means through another portion of the odor absorbing means towards the exhaust surface thereof.

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5      4. (Original) The air venting system of claim 1, in which the inner chamber is  
defined by at least one wall, and in which the odor absorbing means is placed in the  
inner chamber so as to define between the said at least one wall of the chamber and  
the odor absorbing means a space free of odor absorbing means but closed by said  
odor absorbing means, whereby gas flows in or out said space only through the  
10   odor absorbing means, whereby gas flowing from the inlet opening towards the  
outlet opening flows at least partly upwardly from the inlet opening through a  
portion of the odor absorbing means towards the volume free of odor absorbing  
means, and at least partly downwardly through another portion of the odor  
absorbing means from the volume free of the odor absorbing means towards the  
15   outlet opening.

5. (Original) The air venting system of claim 1, in which the odor absorbing means  
is a charcoal containing absorbing means.

20      6. (Original) The air venting system of claim 1, in which the odor absorbing  
means has an inlet surface and an exhaust surface, whereby gas flowing from the  
inlet opening towards the outlet opening flows in the odor absorbing means  
through the inlet surface and outlet the odor absorbing means through the exhaust  
surface, whereby the exhaust surface is at least greater than the inlet surface.

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7. (Original) The air venting system of claim 1, in which the odor absorbing  
means has an inlet surface and an exhaust surface, whereby gas flowing from the  
inlet opening towards the outlet opening flows in the odor absorbing means  
through the inlet surface and outlet the odor absorbing means through the exhaust  
30   surface, whereby the exhaust surface is greater than 1.5 times the inlet surface.

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8. (Original) The air venting system of claim 1, in which the odor absorbing means has an inlet surface and an exhaust surface, whereby gas flowing from the inlet opening towards the outlet opening flows in the odor absorbing means through the inlet surface and outlet the odor absorbing means through the exhaust  
10 surface, whereby the exhaust surface is comprised between 1.5 and 5 times the inlet surface.

9. (Original) The air venting system of claim 1, said system comprising a tubular body defined by a cylindrical wall and extending between a bottom end up to a top  
15 end, a cover cooperating with the top end of the tubular body to form a chamber extending above the top end of the tubular body and associated with a peripheral channel extending outlet the cylindrical wall of the tubular body , whereby the bottom end of the tubular body defines the inlet opening, while the peripheral channel is provided with at least one outlet opening, and whereby the odor  
20 absorbing means is located at least partly in the chamber.

10. (Original) The air venting system of claim 1, said system comprising a tubular body defined by a cylindrical wall and extending between a bottom end up to a top end, a cover cooperating with the top end of the tubular body to form a chamber  
25 extending above the top end of the tubular body and associated with a peripheral channel extending outlet the cylindrical wall of the tubular body , whereby the bottom end of the tubular body defines the inlet opening, while the peripheral channel is provided with at least one outlet opening, and whereby the odor absorbing means is located as least partly in the chamber, as well as partly in the  
30 peripheral channel.

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- 5      11. (Original) The air venting system of claim 1, said system comprising a tubular  
body defined by a cylindrical wall and extending between a bottom end up to a top  
end, a cover cooperating with the top end of the tubular body to form a chamber  
extending above the top end of the tubular body and associated with a peripheral  
channel extending outlet the cylindrical wall of the tubular body , whereby the  
10      bottom end of the tubular body defines the inlet opening, while the peripheral  
channel is provided with at least one outlet opening, and whereby the odor  
absorbing means is located as least partly in the chamber, as well as partly as in the  
tubular body.
- 15      12. (Original) The air venting system of claim 1, said system comprising a tubular  
body defined by a cylindrical wall and extending between a bottom end up to a top  
end, a cover cooperating with the top end of the tubular body to form a chamber  
extending above the top end of the tubular body and associated with a peripheral  
channel extending outlet the cylindrical wall of the tubular body, whereby the  
20      bottom end of the tubular body defines the inlet opening, while the peripheral  
channel is provided with at least one outlet opening, and whereby the odor  
absorbing means is located as least partly in the chamber, as well as partly as in the  
tubular body and at least partly in the peripheral channel.
- 25      13. (Currently amended)      The air venting system of claim 12[[14]], in which  
the odor absorbing means has the form of a body, said body having a circular  
groove in which the top end of the tubular body is introduced.



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- 5 14. (Currently amended) A process for absorbing odor comprising the steps of:  
~~exhausted~~ exhausting gas through an outlet of a gas exhaust conduit of a  
 waste containing system selected from the group consisting of waste treatment  
 system, waste conveying system and substantially closed waste container[[,]]; and  
providing a system in communication with [[in which]] the outlet of said  
 10 gas exhaust conduit, ~~the~~ is provided with a system comprising :
- a body defining an inner chamber; said body having at least one inlet opening  
 intended for receiving gases from the gas exhaust conduit and at least one  
 outlet opening intended for releasing gases out of the body, and
  - at least one odor absorbing means placed in the inner chamber, said odor  
 15 absorbing means having (a) an inlet surface ~~through which gas from the waste~~  
~~containing system enters into the odor absorbing means~~ and (b) an exhaust  
~~surface through which gas from the waste containing system flows out of the~~  
~~odor absorbing means ;~~
- further including the steps of flowing the gas from the waste containing  
 20 system through the inlet surface and into the odor absorbing means, and flowing  
the gas from the waste containing system out from the odor absorbing means  
through the exhaust surface after flowing through at least a portion of said odor  
 absorbing means,
- ~~whereby the system is adapted for defining a gas flowing path in said~~  
 25 system between the inlet surface and the exhaust surface of the odor absorbing  
 means[[,]] ;
- flowing said gas from the waste containing system along said flowing path  
 in the odor absorbing means [[having]] along at least a first upwards flow path  
 portion [[with]] in a first flow direction defined by at least [[one]] a first vector and  
 30 along a second downwards flow path portion [[with]] in a second flow direction  
 defined by at least [[one]] a second vector, whereby ~~at least one~~ the second vector  
 of the second flow direction is oriented substantially opposite to a first vector of  
 the first flow direction, and

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5           ~~in which~~ placing the odor absorbing means ~~[[is placed]]~~ in the inner chamber so as to define a volume free of odor absorbing means,

~~whereby~~ gas further including the step of causing the flow of said gas from the waste containing system and flowing from the inlet opening towards the outlet opening to flow[[s]] at least partly from the inlet opening through a portion of the odor absorbing means towards the volume free of odor absorbing means, and  
 10           through another portion of the odor absorbing means from the volume free of the odor absorbing means towards the outlet opening,

and including the step of flowing the gas from the waste containing system through the odor absorbing means from the inlet surface thereof to the outlet  
 15           surface thereof following at least the first flow path portion and the second flow path portion of the odor absorbing means, with an at least partial flow in said volume free of odor absorbing means of the inner chamber.

15. (Currently amended)       The process of claim 14, ~~in which~~ including the step  
 20           of placing the odor absorbing means ~~is placed~~ in the inner chamber so as to define a volume free of odor absorbing means, ~~whereby~~ and directing gas flowing from the inlet opening towards the outlet opening so as to flow[[s]] at least partly according to an upwards flow path from the inlet surface of the odor absorbing means and through a portion of the odor absorbing means towards the volume free  
 25           of odor absorbing means, and at least partly according to a downwards path from the volume free of the odor absorbing means through another portion of the odor absorbing means towards the exhaust surface thereof.

16. (Currently amended)   The process of claim 14, in which the inner chamber is  
 30           defined by at least one wall, and in which the odor absorbing means is placed in the inner chamber so as to define between the said at least one wall of the chamber and the odor absorbing means a space free of odor absorbing means but closed by said odor absorbing means, ~~whereby gas flows~~ and including the step of flowing gas in

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5 or out said space only through the odor absorbing means, whereby gas flowing  
from the inlet opening towards the outlet opening flows at least partly from the  
inlet opening through a portion of the odor absorbing means towards the volume  
free of odor absorbing means, and through another portion of the odor absorbing  
means from the volume free of the odor absorbing means towards the outlet  
10 opening.

17. (Currently amended) The process of claim 14, in which the inner chamber is  
defined by at least one wall, and in which the odor absorbing means is placed in the  
inner chamber so as to define between the said at least one wall of the chamber and  
15 the odor absorbing means a space free of odor absorbing means but closed by said  
odor absorbing means, and including the step of flowing gas ~~whereby gas flows~~ in  
or out said space only through the odor absorbing means, whereby gas flowing  
from the inlet opening towards the outlet opening flows at least partly upwardly  
from the inlet opening through a portion of the odor absorbing means towards the  
20 volume free of odor absorbing means, and at least partly downwardly through  
another portion of the odor absorbing means from the volume free of the odor  
absorbing means towards the outlet opening.

18. (Currently amended) The process of claim 14, in which the odor absorbing  
25 means is a charcoal containing absorbing means, and including the step of flowing  
gas through the charcoal containing absorbing means.

19. (Currently amended) The process of claim 14, in which the odor  
absorbing means has an inlet surface and an exhaust surface, ~~whereby gas and~~  
30 including the step of flowing gas from the inlet opening towards the outlet opening  
[[flows]] such that gas enters into the odor absorbing means through the inlet  
surface and outlets the odor absorbing means through the exhaust surface, whereby  
the exhaust surface is at least greater than the inlet surface.



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5     20. (Currently amended) The process of claim 14, in which the odor absorbing means has an inlet surface and an exhaust surface, and including the step of  
whereby gas flowing gas from the inlet opening towards the outlet opening such  
that the gas enters [[flows]] into the odor absorbing means through the inlet surface  
and outlets the odor absorbing means through the exhaust surface, whereby the  
10    exhaust surface is greater than 1.5 times the inlet surface.

21. (Currently amended) The process of claim 14, in which the odor absorbing means has an inlet surface and an exhaust surface, ~~whereby gas~~ and including the  
step of flowing gas from the inlet opening towards the outlet opening such that the  
15   gas enters [[flows]] into the odor absorbing means through the inlet surface and  
outlets the odor absorbing means through the exhaust surface, whereby the exhaust surface is comprised between 1.5 and 5 times the inlet surface.

22. (Original) The process of claim 14, in which the system comprises a tubular  
20   body defined by a cylindrical wall and extending between a bottom end up to a top end, a cover cooperating with the top end of the tubular body to form a chamber extending above the top end of the tubular body and associated with a peripheral channel extending outlet the cylindrical wall of the tubular body , whereby the bottom end of the tubular body defines the inlet opening, while the peripheral  
25   channel is provided with at least one outlet opening, and whereby the odor absorbing means is located at least partly in the chamber.

23. (Original) The process of claim 14, in which the system comprises a tubular  
body defined by a cylindrical wall and extending between a bottom end up to a top  
30   end, a cover cooperating with the top end of the tubular body to form a chamber extending above the top end of the tubular body and associated with a peripheral channel extending outlet the cylindrical wall of the tubular body , whereby the bottom end of the tubular body defines the inlet opening, while the peripheral

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5 channel is provided with at least one outlet opening, and whereby the odor absorbing means is located as least partly in the chamber, as well as partly in the peripheral channel.

24. (Original) The process of claim 14, in which the system comprises a tubular  
10 body defined by a cylindrical wall and extending between a bottom end up to a top end, a cover cooperating with the top end of the tubular body to form a chamber extending above the top end of the tubular body and associated with a peripheral channel extending outlet the cylindrical wall of the tubular body , whereby the bottom end of the tubular body defines the inlet opening, while the peripheral  
15 channel is provided with at least one outlet opening, and whereby the odor absorbing means is located as least partly in the chamber, as well as partly as in the tubular body.

25. (Currently amended) The process of claim 14, in which the system comprising  
20 a tubular body defined by a cylindrical wall and extending between a bottom end up to a top end, a cover cooperating with the top end of the tubular body to form a chamber extending above the top end of the tubular body and associated with a peripheral channel extending outlet the cylindrical wall of the tubular body , whereby the bottom end of the tubular body defines the inlet opening, while the  
25 peripheral channel is provided with at least one outlet opening, and whereby the odor absorbing means is located as least partly in the chamber, as well as partly as in the tubular body and at least partly in the peripheral channel.

26. (Original) The process of claim 25, in which the odor absorbing means has the  
30 form of a body, said body having a circular groove in which the top end of the tubular body is introduced.

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- 5     27. (Original)             A waste containing system selected from the group  
consisting of waste treatment system, waste conveying system and substantially  
closed waste container, said waste containing system being provided with at least  
one gas exhaust conduit provided with an air venting system ~~according to any one~~  
~~of the claims 1 to 13~~ comprising:
- 10     - a body defining an inner chamber; said body having at least one inlet opening  
intended for receiving gases from the gas exhaust conduit and at least one  
outlet opening intended for releasing gases out of the body, and  
- at least one odor absorbing means placed in the inner chamber, said odor  
absorbing means having (a) an inlet surface through which gas from the waste  
15     containing system enters into the odor absorbing means and (b) an exhaust  
surface through which gas from the waste containing system flows out of the  
odor absorbing means after flowing through at least a portion of said odor  
absorbing means,
- 20     whereby the system is adapted for defining a gas flowing path between the inlet  
surface and the exhaust surface of the odor absorbing means, said flowing path in  
the odor absorbing means having at least a first upwards flow path portion with a  
first flow direction defined by at least one vector and a second downwards flow  
path portion with a second flow direction defined by at least one vector, whereby at  
least one vector of the second flow direction is opposite to a vector of the first flow  
25     direction, and  
in which the odor absorbing means is placed in the inner chamber so as to define a  
volume free of odor absorbing means, whereby gas flowing from the inlet opening  
towards the outlet opening flows at least partly from the inlet opening through a  
portion of the odor absorbing means towards the volume free of odor absorbing  
30     means, and through another portion of the odor absorbing means from the volume  
free of the odor absorbing means towards the outlet opening.

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28. (New) The waste containing system of claim 27, in which the inner chamber of the air venting system is defined by at least one wall, and in which the odor absorbing means of the air venting system is placed in the inner chamber so as to define between the said at least one wall of the chamber and the odor absorbing means a space free of odor absorbing means but closed by said odor absorbing means, whereby gas flows in or out said space only through the odor absorbing means, whereby gas flowing from the inlet opening towards the outlet opening flows at least partly from the inlet opening through a portion of the odor absorbing means towards the volume free of odor absorbing means, and through another portion of the odor absorbing means from the volume free of the odor absorbing means towards the outlet opening.

29. (New) The waste containing system of claim 27, in which the odor absorbing means of the air venting system is placed in the inner chamber so as to define a volume free of odor absorbing means, whereby gas flowing from the inlet opening towards the outlet opening flows at least partly according to an upwards flow path from the inlet surface of the odor absorbing means and through a portion of the odor absorbing means towards the volume free of odor absorbing means, and at least partly according to a downwards path from the volume free of the odor absorbing means through another portion of the odor absorbing means towards the exhaust surface thereof.

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5 30. (New) The waste containing system of claim 27, in which the inner  
chamber of the air venting system is defined by at least one wall, and in which the  
odor absorbing means of the air venting system is placed in the inner chamber so as  
to define between the said at least one wall of the chamber and the odor absorbing  
means a space free of odor absorbing means but closed by said odor absorbing  
10 means, whereby gas flows in or out said space only through the odor absorbing  
means, whereby gas flowing from the inlet opening towards the outlet opening  
flows at least partly upwardly from the inlet opening through a portion of the odor  
absorbing means towards the volume free of odor absorbing means, and at least  
partly downwardly through another portion of the odor absorbing means from the  
15 volume free of the odor absorbing means towards the outlet opening.

31. (New) The waste containing system of claim 27, in which the odor  
absorbing means of the air venting system is a charcoal containing absorbing  
means.

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32. (New) The waste containing system of claim 27, in which the odor absorbing  
means of the air venting system has an inlet surface and an exhaust surface,  
whereby gas flowing from the inlet opening towards the outlet opening flows in the  
odor absorbing means through the inlet surface and outlet the odor absorbing  
25 means through the exhaust surface, whereby the exhaust surface is at least greater  
than the inlet surface.

33. (New) The waste containing system of claim 27, in which the odor absorbing  
means of the air venting system has an inlet surface and an exhaust surface,  
30 whereby gas flowing from the inlet opening towards the outlet opening flows in the  
odor absorbing means through the inlet surface and outlet the odor absorbing  
means through the exhaust surface, whereby the exhaust surface is greater than 1.5  
times the inlet surface.



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34. (New) The waste containing system of claim 27, in which the odor absorbing means of the air venting system has an inlet surface and an exhaust surface, whereby gas flowing from the inlet opening towards the outlet opening flows in the odor absorbing means through the inlet surface and outlet the odor absorbing means through the exhaust surface, whereby the exhaust surface is comprised between 1.5 and 5 times the inlet surface.

35. (New) The waste containing system of claim 27, in which the air venting system comprises a tubular body defined by a cylindrical wall and extending between a bottom end up to a top end, a cover cooperating with the top end of the tubular body to form a chamber extending above the top end of the tubular body and associated with a peripheral channel extending outlet the cylindrical wall of the tubular body , whereby the bottom end of the tubular body defines the inlet opening, while the peripheral channel is provided with at least one outlet opening, and whereby the odor absorbing means is located at least partly in the chamber.

36. (New) The waste containing system of claim 27, in which the air venting system comprises a tubular body defined by a cylindrical wall and extending between a bottom end up to a top end, a cover cooperating with the top end of the tubular body to form a chamber extending above the top end of the tubular body and associated with a peripheral channel extending outlet the cylindrical wall of the tubular body , whereby the bottom end of the tubular body defines the inlet opening, while the peripheral channel is provided with at least one outlet opening, and whereby the odor absorbing means is located as least partly in the chamber, as well as partly in the peripheral channel.

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37. (New) The waste containing system of claim 27, in which the air venting system comprises a tubular body defined by a cylindrical wall and extending between a bottom end up to a top end, a cover cooperating with the top end of the tubular body to form a chamber extending above the top end of the tubular body and associated with a peripheral channel extending outlet the cylindrical wall of the tubular body , whereby the bottom end of the tubular body defines the inlet opening, while the peripheral channel is provided with at least one outlet opening, and whereby the odor absorbing means is located as least partly in the chamber, as well as partly as in the tubular body.

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38. (New) The waste containing system of claim 27, in which the air venting system comprises a tubular body defined by a cylindrical wall and extending between a bottom end up to a top end, a cover cooperating with the top end of the tubular body to form a chamber extending above the top end of the tubular body and associated with a peripheral channel extending outlet the cylindrical wall of the tubular body, whereby the bottom end of the tubular body defines the inlet opening, while the peripheral channel is provided with at least one outlet opening, and whereby the odor absorbing means is located as least partly in the chamber, as well as partly as in the tubular body and at least partly in the peripheral channel.

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39. (New) The waste containing system of claim 27, in which the odor absorbing means of the air venting system has the form of a body, said body having a circular groove in which the top end of the tubular body is introduced.

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